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Report of the
Medical Officer of Health
1938.

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Report of the Medical Officer of Health for the Year 1938.

Mr. Chairman and Gentlemen,

I beg to submit this my second Annual Report upon conditions in the Urban District, which, on suggestions from the Ministry of Health, is compiled on lines similar to those employed in my report for the preceeding year.

Section A.

Statistics and Social Circumstances of the Area.

The district comprises 9,336 acres. The resident population in mid-year 1938 was estimated by the Registrar General to be 35,440.

According to the district's rate books, the number of inhabited houses at the end of 1938 was 9,957.

The rateable value of the district is £132,926 and the product of a penny rate is £483.

In the following extracts from the district's vital statistics, the corrected figures as supplied by the Registrar General are used, and throughout this report the rates quoted as regards births and deaths are calculated on the mid-year population quoted above.

		Total.	Males.	Females.
Live Births—				
Legitimate	...	559	265	294
Illegitimate	...	23	14	9

Birth rate per 1,000 of the estimated resident population 16.4.

		Total.	Males.	Females.
Still Births—				
Still Births	...	30	12	18

Rate per 1,000 (live and still) births—49.

		Total.	Males.	Females.
Deaths	...	422	221	201

Death rate per 1,000 of estimated resident population—11.9

Deaths from Puerperal Causes—

		Deaths	Rate per 1,000 total births
(a) From Puerperal Sepsis	...	1	1.6
(b) From other Puerperal causes	...	1	1.6
Total	...	2	3.2

Death rate of infants under 1 year of age—

All infants per 1,000 live births—75.

Legitimate infants per 1,000 legitimate live births—69.

Illegitimate infants per 1,000 illegitimate live births—217.

Deaths from Cancer (all ages)	...	...	...	49
do. Measles (all ages)	...	...	...	1
do. Whooping Cough (all ages)			...	0
do. Diarrhoea (under 2 years of age)	...			0

Section B.

General Provision of Health Services.

(i) **Health Department Staff.**—The following are the officers of the Health Department Staff:—

- H. G. Donald, M.B. Ch.B. D.P.H.—Full time Medical Officer of Health.
- A. Spencer, C.R.S.I. Sanitary Inspector.
- J. G. Bainbridge, C.R.S.I. Certificated Meat and Foods Inspector.
- A. Robinson, Shops Inspector, also undertakes part duties under the Housing acts.
- S. Elliott, Disinfection Officer.
- K. Crosby, Clerk.

(ii) During the year under review no change was made in respect of Laboratory, Ambulance, Hospital, Treatment Clinics facilities in the area. Details of the provision of these facilities are given on p.p. 5 and 6 of my Annual Report for 1937.

Section C.

Sanitary Circumstances of the Area.

(1) **Water.**— The sources of the district's water supply have been detailed in my Annual Report for 1937, and during the year under review no extension or important alteration in the supply was effected. In my report for 1937 I referred to two sources of pollution, (a) by sewage effluent from Crook Sewage Disposal Works, and (b) by phenoloid trade effluent from works situated in Crook Urban District. The continuance of these pollutions have engaged my attention and that of your Waterworks Engineer during the past year.

Seven samples of domestic supply were submitted for bacteriological analysis during the year and three for chemical analysis. In all cases the analyses showed that the treated water was satisfactory. The following is a summary of the bacteriological analyses of the treated water:—

Date of Sample.	In 100 c.c. of tap water.			
	Coliform	Bacilli.	Bacillus	Enteritidis
			Streptococi.	Sporogens.
Jan. 1938.	—	—	—	—
Mar. 1938.	—	—	—	—
April, 1938.	—	—	—	—
May, 1938.	—	—	—	+
July, 1938.	—	—	—	+
Sept. 1938	—	—	—	+
Nov. 1938.	—	—	—	+

Samples of untreated water were taken from the River Wear during the year, and the results of their analysis were consistent with those of a sewage polluted stream. On the same date in May, 1938, samples of water were taken from the River Wear at points above and below Crook sewage farm. The sample taken from above the farm contained Coliform Bacilli in 1.0 c.c., while the sample from below contained these organisms in 0.1 c.c. In December a sample of river water taken at the intake to the Waterworks was found to contain B. Coli. in .01 c.c.

With a view to eliciting the efficiency of the various stages of treatment of the raw water, samples of water were taken at various stages of treatment. Water, after mechanical filtration, but prior to sand filtration was found to contain B. Coli. in 1 c.c. and in 1 c.c.

Water after double filtration, was found to contain B. Coli. 10 c.c. in each of three samples taken during the months of August and September.

The results of the series of analyses made during the year have demonstrated the following facts:—

(a) The effluent from the Crook Sewage Works was polluting the River Wear, and the effect of this pollution was still evident at your Waterworks intake.

(b) The River was not free from sewage pollution above Crook Sewage Works.

(c) The double filtration (mechanical and gravitation) was not effectively reducing the sewage pollution to produce a safe drinking water.

(d) The safety of the drinking water from the Bishop Auckland town waterworks was dependent upon a last line of defence—namely, chlorination.

These facts were brought to the Council's notice by reports from your Engineer and Medical Officer when I emphasised that while chlorination is a valuable safeguard to the preservation of purity of a domestic water supply, it should not be relied upon as a means of purifying a foul water.

During the year the Urban District of Crook and Wilsington arranged to have their present sewage farm replaced by new Sewage Disposal Works. The construction of these works is now in progress and their completion should remove a considerable amount of sewage pollution of the main river.

As regards the pollution by trade effluent from the works at Crook. This pollution was a subject of comment by the author of a report, No. 565, to the Standing Committee on River Pollution of the Ministry of Agriculture and Fisheries. This report notes, "The Crook Beck most grossly polluted below Bankfoot by product works. It was not only devoid of dissolved oxygen, but contained a toxic concentration of tar acids. Its condition was almost as bad when it joined the Wear. The conditions of the Wear deteriorates slightly below the Crook Beck, but not as seriously as might have been expected, and it had practically recovered from the pollution three miles downstream, just below Bishop Auckland. The town is vitally interested in the condition of Crook Beck, some of its domestic water supply being taken from the Wear below the confluence of the Beck.

New filtration plant was installed during the year at the bye product works referred to above, and this has resulted in an improvement in the trade effluent, but its condition is still far from satisfactory.

With a view to improving the method of treatment of raw water at the waterworks, all five mechanical filters were dismantled and thoroughly cleansed. The strainers were filled with clean pea gravel and the filter bodies replenished with new sand after thorough cleansing. Despite this it was found in December that water after mechanical filtration still contained B. Coli. in 0.1 c.c., whereupon your engineer endeavoured to reduce the sewage bacilli content in pre-chlorinated water by precipitation with alumina. No flocculation tank has ever been used at your works, and up till December, 1939, the alumina used to produce flocculation had only about three minutes contact with the raw water before filtration. By using sodium alminate and introducing it so as to allow at least twenty minutes contact prior to the filtration, a more effective flocculation was effected, and in January, 1939, an analysis of the water after mechanical filtration showed B. Coli. present in 10 c.c., that is 100 times better than in the previous month. In my opinion even better results could be obtained if still longer contact were provided by the installation of a flocculation bed at the Waterworks. The provisions of a satisfactory system of flocculation, of two additional mechanical filter units, and of an automatically controlled and automatically recording chlorination plant should, in my opinion, be regarded as essentials of your Bishop Auckland town Waterworks, and I urge the Council, in view of the above recorded evidence of the high degree of pollution of the river water, to give their early consideration to the provision of these improvements in their works.

(2) Drainage and Sewerage.—Work done under contract No. 1. Bishop Auckland Main Sewerage Scheme during 1938 included the laying of 12,461 yards of main and branch sewers. 3,625 lineal yards of main trunk outfall sewer were laid between Binchester Plantation and the Gaunless Auction Mart, via the Bishop's Park and Bracks Wood.

Feeding into the above mentioned outfall sewer, 8,836 lineal yards of branch sewers were laid during the year as follows:—

South Church, Main Street to field near Vicarage via Crown Street,—21 in. pipes—77 lineal yards.

River Gaunless at Auction Mart. to L.N.E.R. Crossing, Cradock Street,—21 in. and 12 in. pipes—91 lineal yards.

Escomb Road to Etherley Dene—12 in. 15 in. 18 in. and 21 in. pipes—1609 lineal yards.

Dell Bank Cottages to South Church Road—12 in. 18 in. 24 in. 30 in. 33 in. and 36 in. pipes—423 lineal yards.

Durham Road—6 in. 9 in. 12 in. and 15 in. pipes—1258 lineal yards.

North Trunk Sewer.

From Deerhouse in Bishop's Park to Newton Cap Bank—9 in. 12 in. 15 in. and 18 in. pipes—1314 lineal yards.

Wear Chare Bank—15 in. pipes—82 lineal yards.

North Bondgate—12 in. and 15 in. pipes—301 lineal yards.

From Coundon Sewage Works to Bishop's Park—9 in. and 12 in. pipes—1476 lineal yards.

Etherly Dene to Etherly Grange—9 in. 12 in. 15 in. and 21 in. pipes—1779 lineal yards.

Lower Bridge Street (Back)—9 in. pipes—47 lineal yards.

From Gomer Terrace across River Wear, 6 in. pipes—131 lineal yards.

Escomb Lane Ends—6 in. pipes—248 lineal yards.

Sewage Disposal Works.—The small disposal works at Etherley Dene have been dismantled and the sewage is now flowing through the new system.

Work on Contract No. 2. was commenced on the 7th. March, 1938 and the following work was completed on the new sewage disposal works during 1938.

Grit Channels—Ferro concrete floors were laid.

Screening House—Under construction.

Three Settling Tanks—Almost complete.

Dosing Chamber—Cast Iron Inlet, Outlet and Wash out pipes laid.

Percolating Filters (8)—Ferro concrete floors and Circular Reinforced Brickwork of 4 filters complete, together with 102 Cast Iron feed pipes and wash-out pipes.

Stormwater pipes—166 lineal yards of Cast Iron pipes laid.

Effluent Pipes from Filters—302 lineal yards of pipes laid.

Sludge Pipes—149 lineal yards of 9 in. pipe laid.

Pumping Main—165 lineal yards of 4 in. Cast Iron pipe laid.

Supply and Filter Feed pipes—128 yards of 10 and 15 in. Cast Iron pipes laid.

For details of progress of work on these sewage schemes, I am indebted to the Resident Engineer, Mr. Stanage.

(III.) 1. **Closest Accommodation.** At the end of 1938 the number of closets of each type in the district was as follows:—

Water Closets.	5513
Ash Closets.	5390
Ash Pit Privies.	315
Pail Closets	21
Chemical Closets.	6

During the year, as a result of informal notice, or voluntary action by owners, 8 closets of the conservancy type were converted to the water carriage system.

The incompletion of the large sewage scheme now in progress and the present insufficiency of sewage disposal works have precluded any large scale conversion to water carriage. During the year, however, the Council agreed that, as a first instalment to a general conversion scheme, 249 closets in the wards of Bishop Auckland town should be converted to water carriage system. The work of conversion was, however, not commenced before the end of 1938.

2. **Public Cleansing.** For scavenging purposes the district is divided into twenty three areas. In all of these except one the scavenging is done by contract. In Coundon district it is done by direct labour. Refuse is disposed of on tips, eleven of which are in use for the twenty three areas. Seven of the tips are controlled by tip attendants.

3. **Sanitary Inspection of the Area.** The following is a summary of the work done by the sanitary inspectors during the year.

1.—PUBLIC HEALTH ACTS			Number of Informal written Notices by Inspectors	Number of Formal Notices by order of Council	Number of Nuisances abated
Dwellings	Foul Conditions.	1	...	...	1
and	Structural Defects.	520	...	...	495
Schools.	Overcrowding.	...	...	...	...
Lodging Houses.	...	1	...	...	1
Dairies and Milk Shops	...	1	...	...	1
Cowsheds.	...	4	...	...	4
Bakehouses.	...	...	...	1	...
Slaughterhouses.	...	3	...	...	3
Ashpits and Privies.	...	200	...	...	197
Deposits of Rufuse and Manure	...	4	...	...	4
Water Closets.	...	18	...	...	13
Defective Yard Paving.	...	4	...	...	4
House	Defective Traps.	6	...	...	6
Drainage.	No disconnection from sewer.	...	...	...	...
	Other faults.	82	1	83	83
Water Supply.	...	...	...	...	...
Pigsties.	...	...	...	...	...
Animals improperly kept.	...	3	1	...	3
Offensive Trades.	...	...	...	...	...
Smoke Nuisances.	...	...	...	...	...
Other Nuisances.	...	695	...	...	602
TOTALS.			1542	3	1412

	Number	Remarks
II.—WATER, FOOD AND DRUGS.		
Samples of water taken for Analysis. ...	7	Town Domestic Supply
Samples of water condemned as unfit. ...	...
Seizures of unwholesome food.	1 1 20	heifer bullock stones
Convictions for exposing or selling unwholesome food	...	Voluntarily Surrendered livers, lungs, etc.
Samples of food and drugs taken. ...	1	Milk
Found adulterated. ...	...
III.—PRECAUTIONS AGAINST INFECTIOUS DISEASES.		
Lots of infectious bedding disinfected or destroyed. ...	207	
Houses disinfected after infectious diseases. ...	207	
Schools disinfected after infectious diseases. ...	Nil	
Prosecutions for exposure of infected persons or things.	Nil	
Convictions for exposure of infected persons or things.	Nil	
IV.—GENERAL.		
Number of new houses erected during the year. ...	42	
Number of new houses occupied during the year. ...	40	
Ashpit Privies converted into ashclosets. ...	Nil	
Ashpit privies converted into water closets. ...	3	
Ashclosets converted into water closets. ...	5	
Total number of water closets in district. ...	5513	

	Number	Remarks
Total number of Ashclossets in district.	5417X	
Total number of Ashpit privies. in district.	315	
X Includes pail and chemical closets.		

5. **Shops and Offices.**—Five preliminary notices were served to provide washing accommodation in shops. In all five instances the notices were complied with.

6. **Other Sanitary Matters.**—There are no camping sites in the district, nor is there any swimming bath or pool.

No instance of smoke nuisance was noted during the year.

Eradication of bed bugs:—During this year 14 private houses were discovered to be infested by bed bugs. These were disinfected by means of zaldicide spray and subsequent sulphur fumigation by your health department staff. No bug infestation was discovered in any Council house during the year.

Section D. Housing.

1.—Inspection of dwelling houses during the year.

1	(a) Total number of dwelling houses inspected for housing defects (under Public Health and Housing Acts).	1448
	(b) Number of inspections made for the purpose	3051
2	(a) Number of dwelling houses (Included under sub-head '1, above) which were inspected and recorded under the Housing Consolidated Regulations.	4
	(b) Number of inspections made for the purpose.	4
3	Number of dwellings found to be in a state so dangerous or injurious to health as to be unfit for habitation.	4
4	Number of dwelling houses (excluding those referred to under preceeding sub head) found not to be in all respects fit for habitation.	1444

2.—Remedy of defects during the year without service of Formal Notices.

Number of defective dwellings rendered fit in consequence of informal action by Council's Officers. 1324

3.—Action under Statutory Powers.

	(a) Proceedings under sections 9, 10 and 16 of Housing Act, 1936. Number of dwellings in respect of which notices were served requiring repairs.	...	...	0
1	(b) Proceedings under Public Health Acts. Number of dwelling houses in respect of which notices were served requiring defects to be remedied.	...	...	1
2	Number of dwelling houses remedied after service of formal notice.	...	...	1
	(a) By owners.	...	...	1
	(b) By Local Authority in default of owners.	...	...	0
	(c) Proceedings under sections 11 and 13 of the Housing Act, 1936.			
1	Number of houses in respect of which demolition orders were made.	...	...	1
2	Number of houses demolished in pursuance of demolition orders.	...	...	1
	(d) Proceedings under Section 12 of the Housing Act, 1936.			
1	Number of separate tenements or underground rooms in respect of which Closing Orders were made.	...	...	0
2	Number of separate tenements or underground rooms in respect of which Closing Orders were determined, the tenement or room having been rendered fit	...	...	0

4.—Housing Act, 1936. Part IV. Overcrowding.

	(a) (i) Number of dwellings overcrowded at the end of the year.	...	...	578
	(ii) Number of families dwelling therein.	...		578
	(iii) Number of persons dwelling therein.	...		3375
(b)	Number of new cases of overcrowding reported during the year.	...		0
(c) (i)	Number of cases of overcrowding relieved during the year.	...	...	325
(ii)	Number of persons concerned in such cases.	...		1630

Section E. Inspection and Supervision of Food.

(a) Milk Supply.—In the district there are 104 registered dealers in milk. Of these 17 are wholesale producers, 44 retail producers, 41 non producing purveyors, 1 a butter maker. One business firm in the district is licensed to pasteurise milk.

It was not necessary to serve formal notice for improvement of any cowshed or dairy during the year.

(b) Meat.—Twenty four slaughter houses and fourteen butchers shops (without slaughtering accommodation) exist in the area. The following is a summary of the meat inspection conducted during the year by your Sanitary Inspectors.

	Cattle excluding Cows	Cows	Calves	Sheep and Lambs	Pigs
Number killed ...	870	229	...	947	356
Number inspected ...	551	149	...	801	180
ALL DISEASES EXCEPT TUBERCULOSIS					
Whole carcases condemned. ...	Nil	Nil		Nil	Nil
Carcases of which some part or organ was condemned.	2	20		Nil	Nil
Percentage of number inspected affected by disease other than T.B.	·36	·3·4		Nil	Nil
TUBERCULOSIS ONLY.					
Whole carcases condemned. ...	2	Nil		Nil	Nil
Carcases of which some part or organ was condemned.	3	1		Nil	Nil
Percentage of number inspected affected with T.B.	·9	·7		Nil	Nil

(c) Nutrition.—As in previous years, your Medical Officer has continued to address meetings of Women's Institutes, Welfare Centres, and other organisations on health subjects, including nutrition.

Section F.

Prevalence of and Control over Infectious and other Diseases.

The incidence of infectious diseases in the area was considerably below that in the County as a whole. It was highest in the first quarter of the year and lowest in the fourth quarter. This variation in seasonal incidence corresponded with the variation noted in the administrative county. Of the two commonest infectious diseases, the attack rate of Scarlet Fever was 2.9 per 1,000 of the population in this district as compared with an attack rate of 3.9 per 1,000 of the population in the whole county, and in the case of Diphtheria, this district's attack rate was 1.2 per 1,000 as against the County rate of 3.5 per 1,000.

As for the past several years, the great majority of the Scarlet Fever cases were of the mild type. The cases of Diphtheria notified were of varied types, from mild to toxic. A small proportion of the cases developed varying degrees of post diphtheritic paralysis, which prolonged the retention of the victims in hospital.

As reported in my monthly report for June, 1938, a small outbreak of Scarlet Fever occurred in the Central Wards, due, apparently, to infected milk. A common source of infection in eight notified cases was traced to a milk delivery boy who had delivered milk on the morning of the day on which he took ill. Illness characterised by sore throat, fever, and malaise was discovered occurring synchronously among other consumers of the milk. The outbreak was quickly arrested after the removal of the delivery boy to an isolation hospital.

The following table shows the incidence during the year of the various notifiable diseases.

DISEASE.	Total Cases Notified	Cases Admitted to Hospital	Total Deaths
Smallpox.	0	0	0
Scarlet Fever ...	104	98	1
Diphtheria.	44	44	2
Enteric Fever.	0	0	0
Puerperal Pyrexia.	7	3	0
Pneumonia.	16	—	22
Erysipelas.	16	—	0
Cerebro Spinal Meningitis.	2	2	0
Ophthalmia Neonatorum.	1	—	0

The following table shows the analysis of the cases of infectious diseases notified under the various age groups:—

AGE GROUP		Scarlet Fever	Diphtheria	Erysipelas	Pneumonia	Cerebro Spinal Meningitis
0—1 Year	...	1	3	1	1	0
1—2 Years	...	3	1	0	3	0
2—3 Years	...	5	0	0	0	0
3—4 Years	...	6	1	0	3	0
4—5 Years	...	10	2	0	1	0
5—10 Years	...	42	13	0	2	1
10—15 Years	...	21	15	1	0	0
15—20 Years	...	10	3	1	1	0
20—35 Years	...	3	2	1	4	0
35—45 Years	...	2	4	3	1	1
45—65 Years	...	1	0	5	0	0
65 Years and over	0	0	4	0	0	0
Total all ages	...	104	44	16	16	2

Of the 98 cases of Scarlet Fever treated in hospital, 52 were isolated in the Council's own hospital in South Church Lane, the average detention of patient being 41 days. Of the 44 Diphtheria cases admitted to hospital, 35 were treated in the Council's hospital, and the average detention was 40 days. No "return" cases were notified during the year.

Immunisation.—In March 1938, I reported at a monthly meeting upon the district's experience of immunisation against Diphtheria, and suggested a further immunisation campaign by use of the two dose of Alum precipitated Toxoid. Your Council, however, resolved that consideration of the matter should be in abeyance for six months, and no immunisation scheme was undertaken during the year.

Prophylaxis and Serum Therapy.—As in previous years, supplies of anti Diphtheritic serum are issued on request to local practitioners, and I am glad to state that the practitioners maintain a helpful co-operation with the Health Department by their administration of early and adequate doses of serum.

Tuberculosis.—The following table shows, in arrangement by age groups, the number of new cases notified, and of deaths from Tuberculosis occurring in the district in 1938.

Age Periods	NEW CASES				DEATHS			
	Pulmonary		Non-Pulmonary		Pulmonary		Non-Pulmonary	
	M.	F.	M.	F.	M.	F.	M.	F.
0	...	...	...	...	...	...	...	...
1	...	...	3	2	...	...	...	2
5	...	1	7	4	...	1	...	1
15	3	9	1	1	1	3	1	...
25	5	4	...	1	3	3	1	1
35	...	3	1	...	4	3	...	...
45	5	1	...	...	1	...	...	1
55	1	...	...	1	...	1	...	...
65 and Upw'ds	1	...	...	...	1	...	...	...
Totals -	15	18	12	9	10	11	2	5

Of the 21 deaths from Pulmonary Tuberculosis, 15 were of persons who had been notified prior to their death as suffering from Tuberculosis. Of the 7 deaths from non-respiratory Tuberculosis, 6 were of persons who have been notified prior to their death. The ratio, therefore, of non notified tuberculosis deaths to the total tuberculosis deaths is 1 in 4. Of the 7 non-notified tuberculosis deaths, 5 were of persons who died in institutions (other than sanatoria) situated outside this district. Presumably the diagnosis in each of these cases was established either after or just prior to death.

I am

Mr. Chairman and Gentlemen,

Your Obedient Servant,

H. G. DONALD.

Factories and Workshops.

In pursuance of Part I of the Factories Act, 1937, 49 inspections of factories were made by your officers during the year.

The following is a summary of the defects found :—

PARTICULARS	Number of defects		Referred to H. M. Inspector	Number of defects in respect of which prosecu- tions were instituted
	Found	Remedied		
Want of Cleanliness ...	1	1	0	0
Overcrowding ...	1	1	0	0
Unreasonable temperature ...	0	0	0	0
Inadequate ventilation ...	0	0	0	0
Ineffective drainage of floors ...	1	1	0	0
Sanitary Conveniences	3	3	0	0
{ Insufficient ...	0	0	0	0
{ Unsuitable ...	3	3	0	0
{ Not separate for Sexes ...	0	0	0	0
Other offences ...	2	0	0	0
TOTAL ...	8	6	0	0

Only one home worker is registered under Section 110 of the Act and he is working under satisfactory conditions.

H. G. DONALD,

Medical Officer of Health.

